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APR 2 9 2004
PATENT & TRADEMARK OFFICE

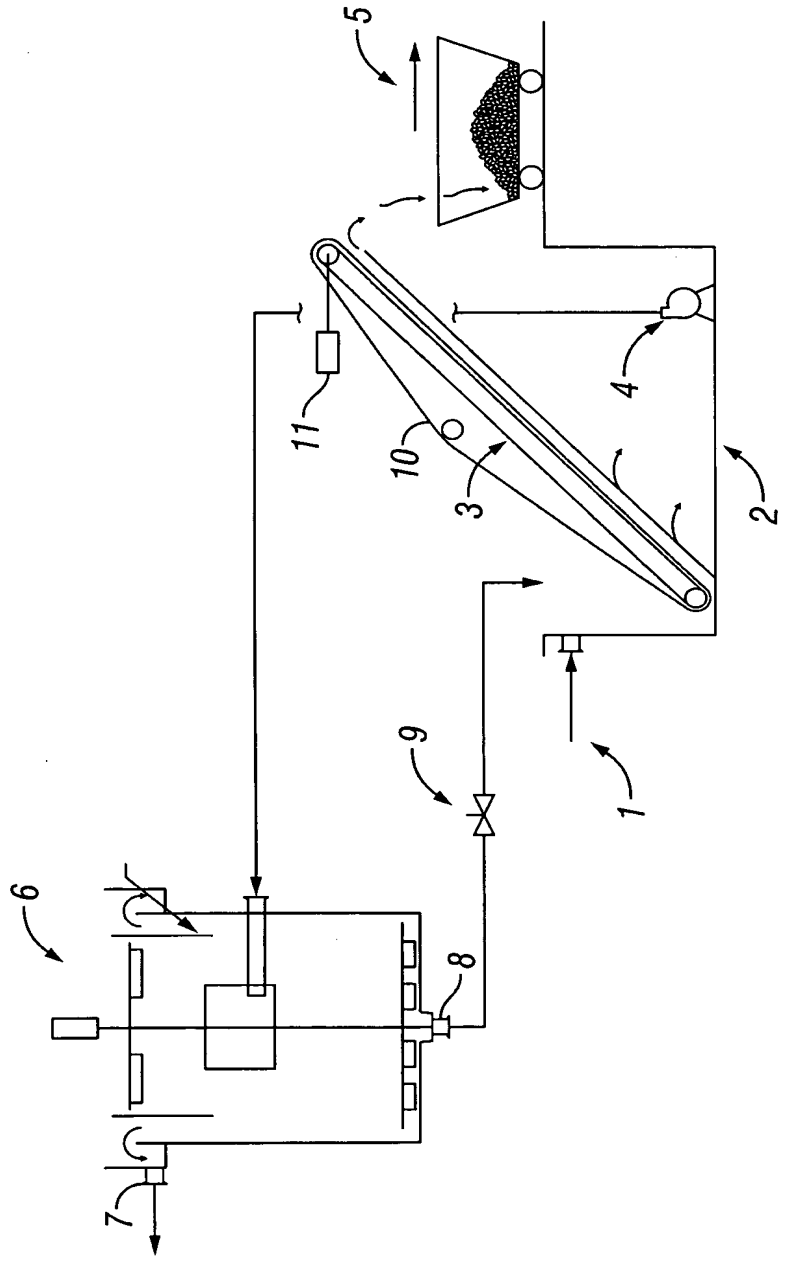

FIG. 1

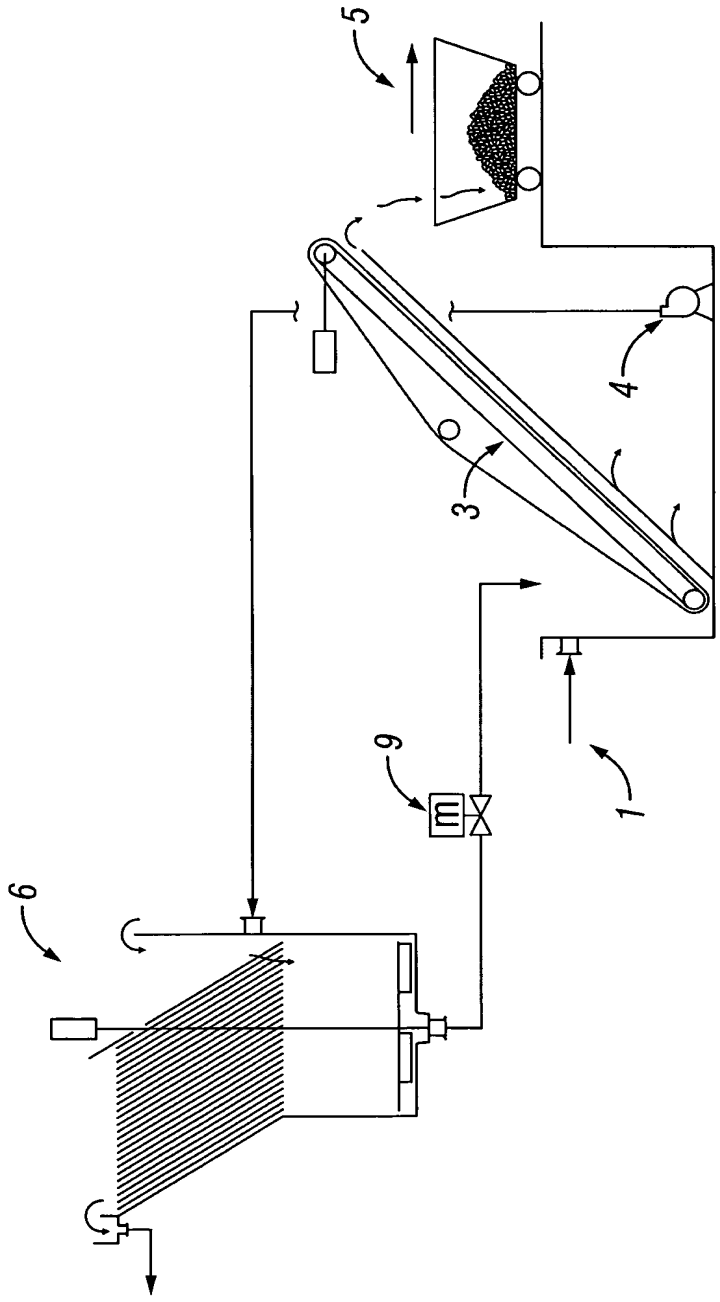

FIG. 2

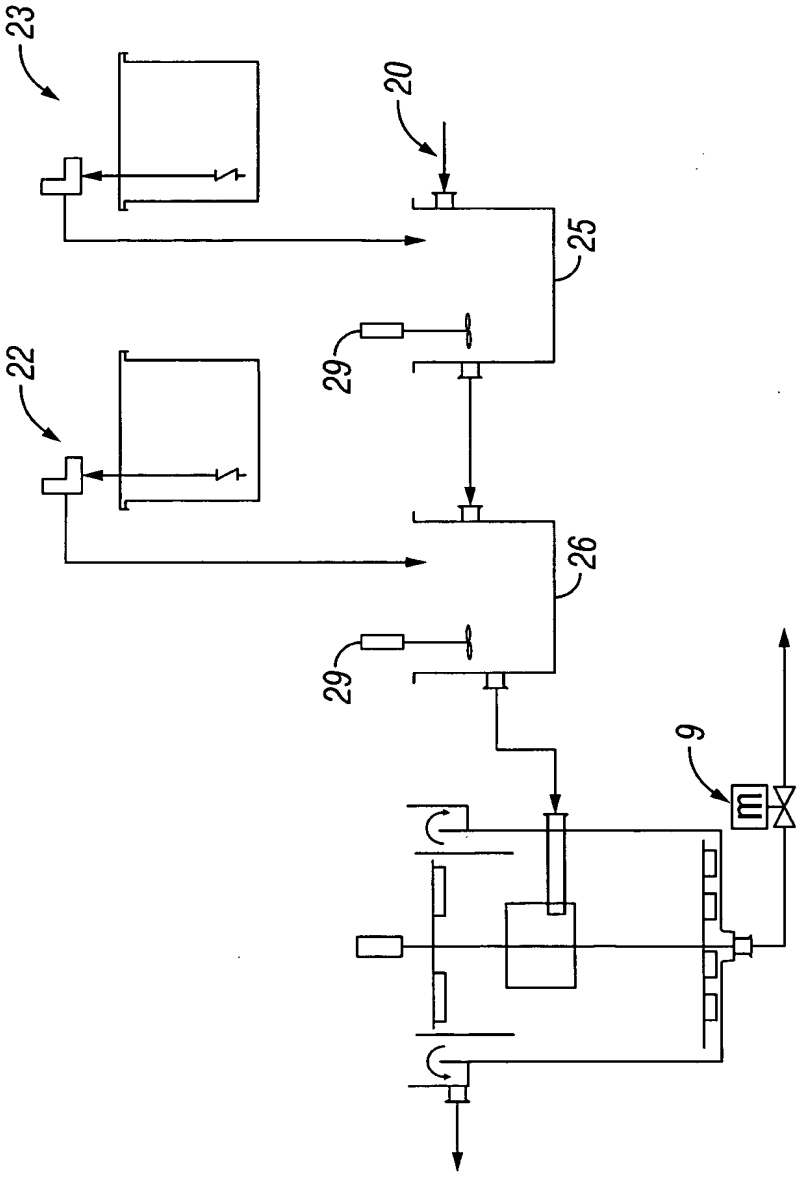

FIG. 3

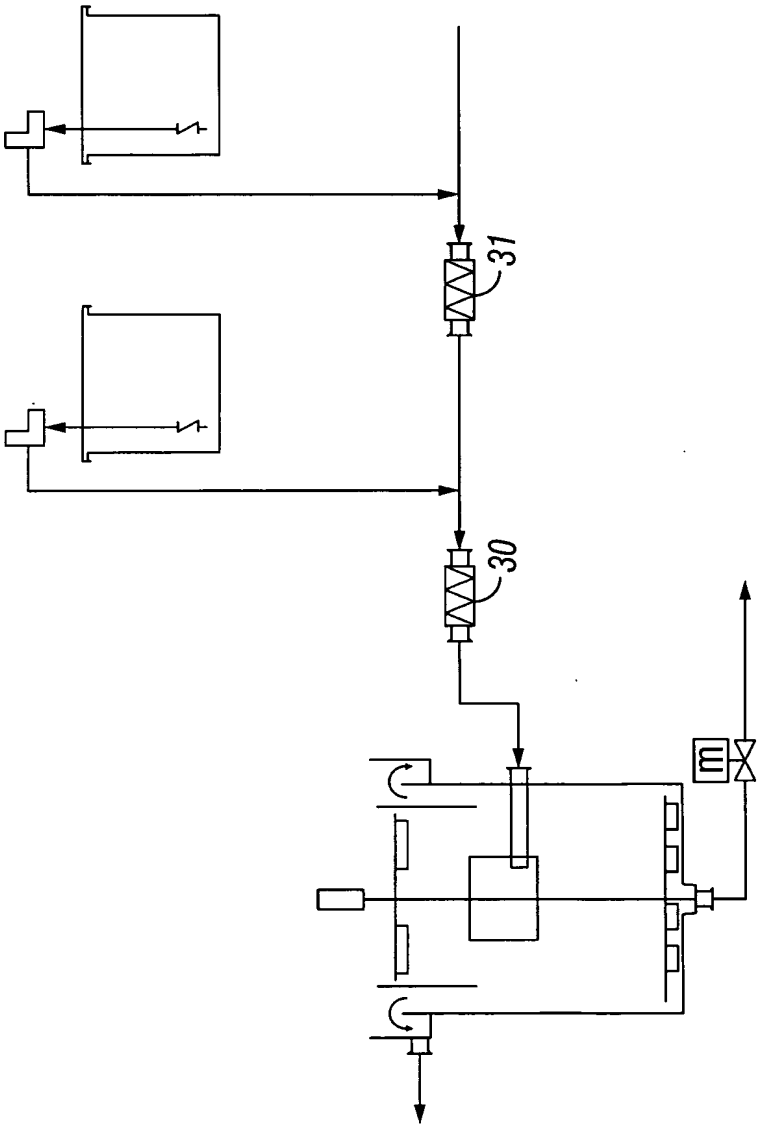

FIG. 4

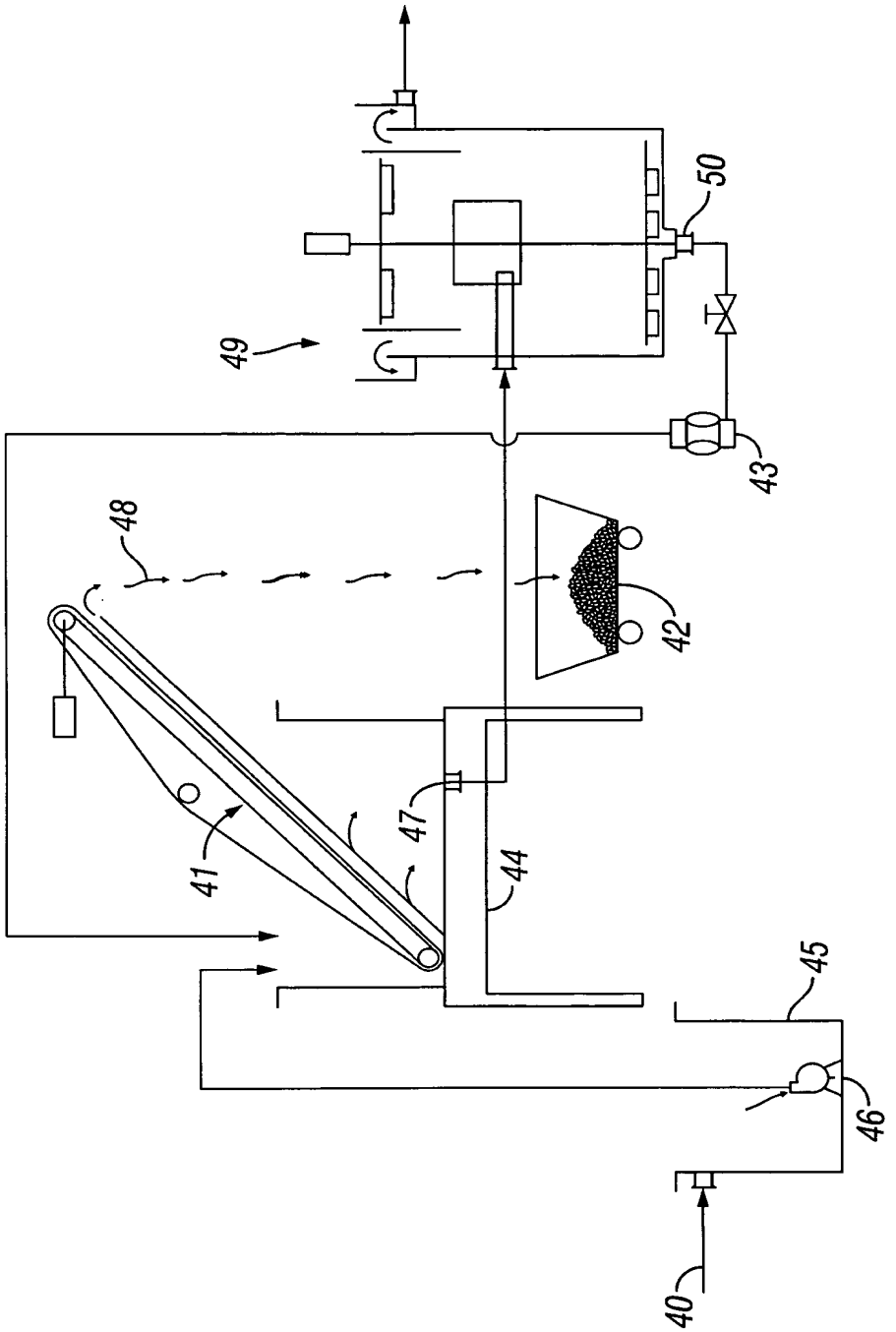

FIG. 5

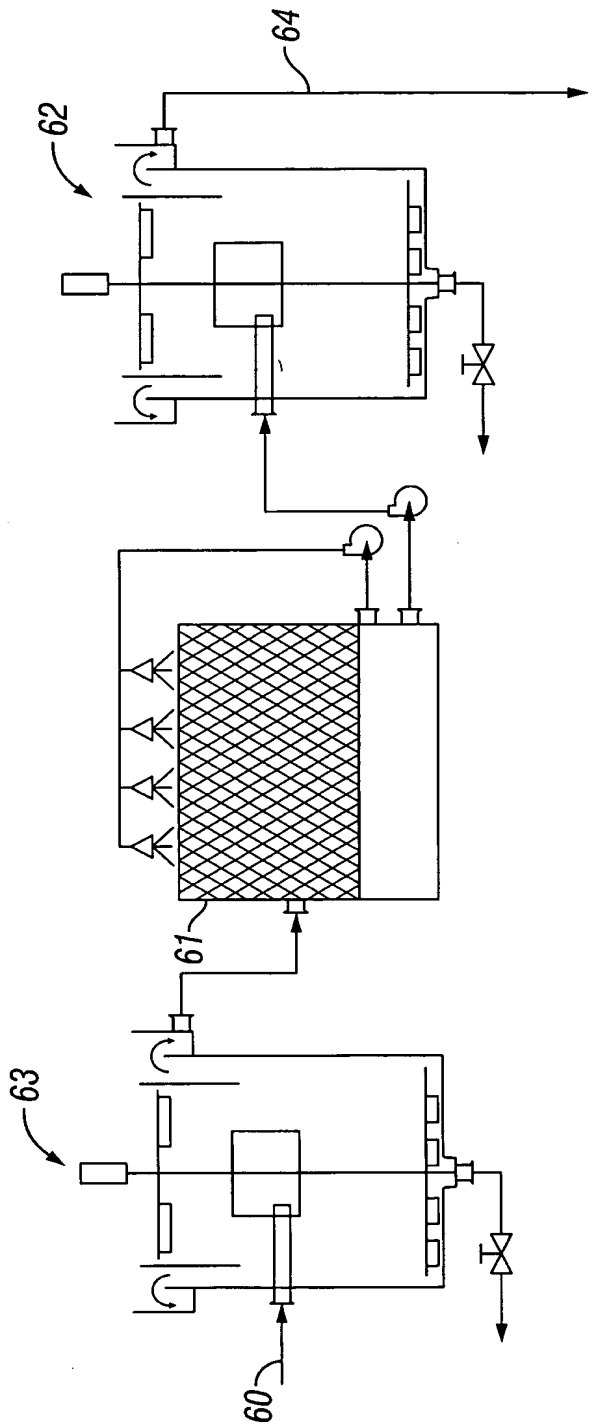

FIG. 6

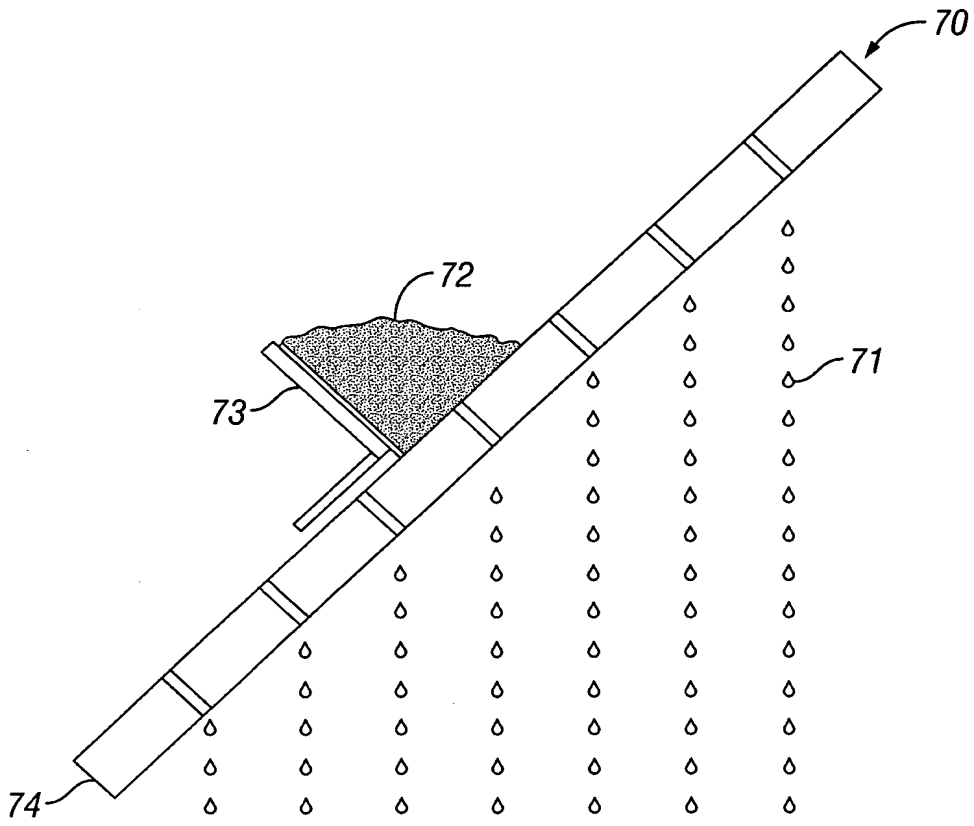

FIG. 7

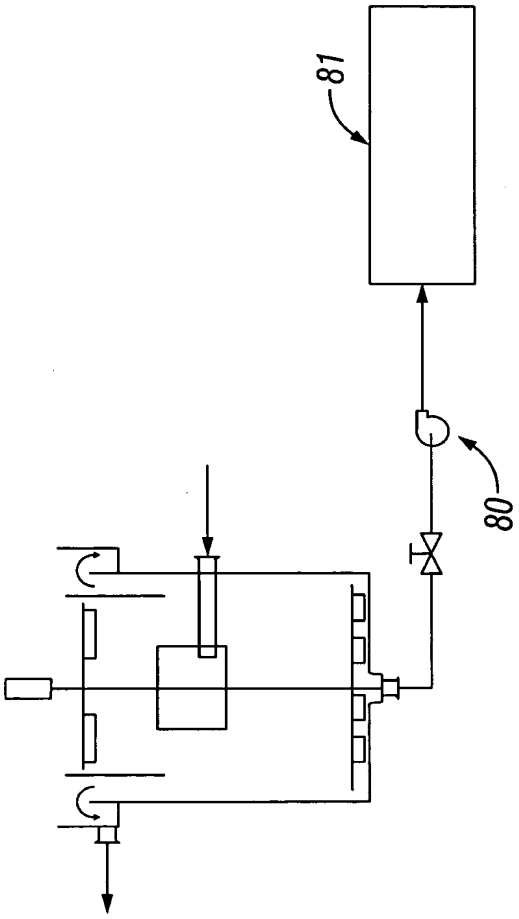

FIG. 8

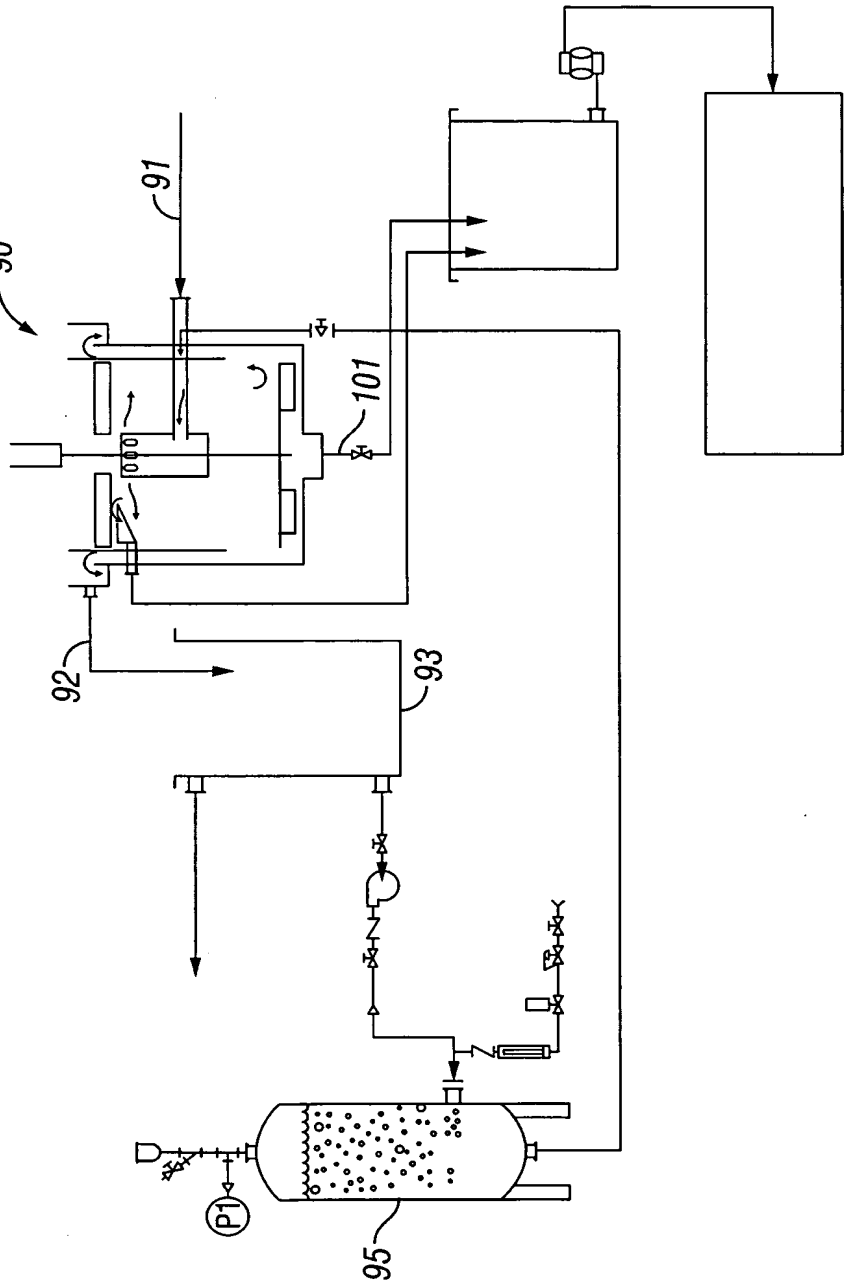

FIG. 9

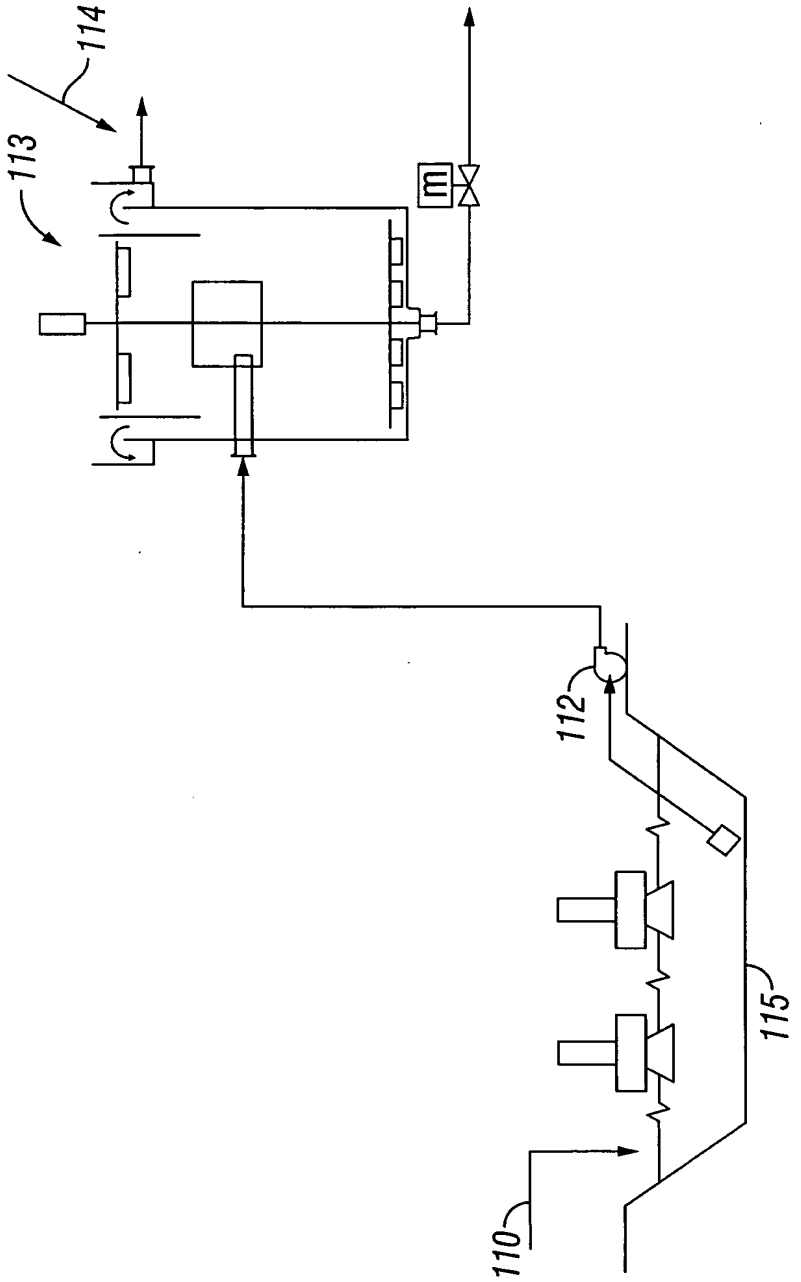

FIG. 10

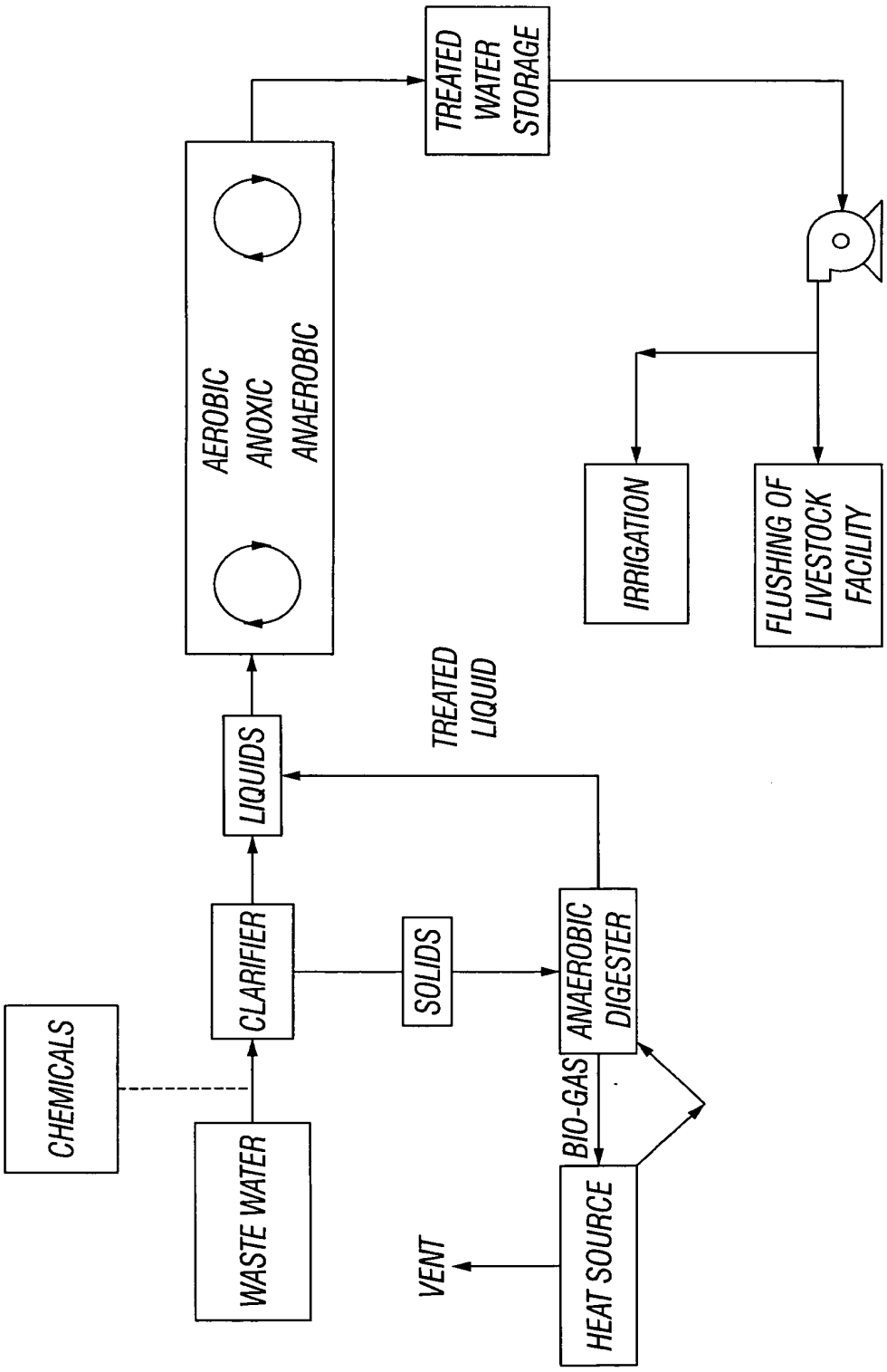
CHEMICALS
WASTE WATER
CLARIFIER
SOLIDS
ANAEROBIC DIGESTER
BIO-GAS
HEAT SOURCE
VENT
LIQUIDS
TREATED LIQUID
AEROBIC
ANOXIC
ANAEROBIC
TREATED WATER STORAGE
IRRIGATION
FLUSHING OF LIVESTOCK FACILITY

FIG. 11

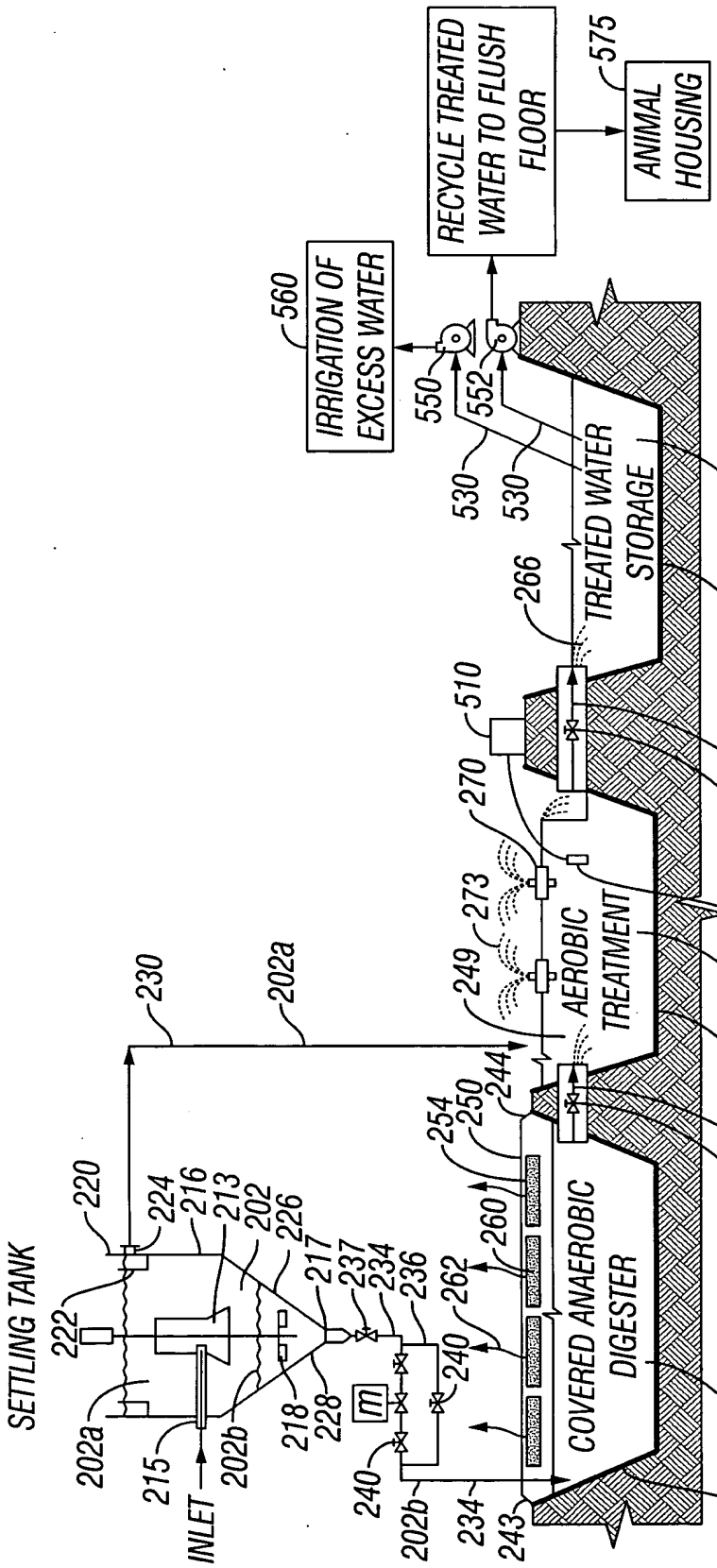
SETTLING TANK
INLET
202a
215
202b
218
228
240
202b
234
243
220
222
224
216
213
202
226
217
237
234
236
262
240
230
202a
249
273
270
510
266
TREATED WATER STORAGE
530
530
530
532
240
535
AEROBIC TREATMENT
500
265
269
240
256
254
250
244
260
COVERED ANAEROBIC DIGESTER
245
247
550
552
560
IRRIGATION OF EXCESS WATER
RECYCLE TREATED WATER TO FLUSH FLOOR
575
ANIMAL HOUSING

FIG. 12

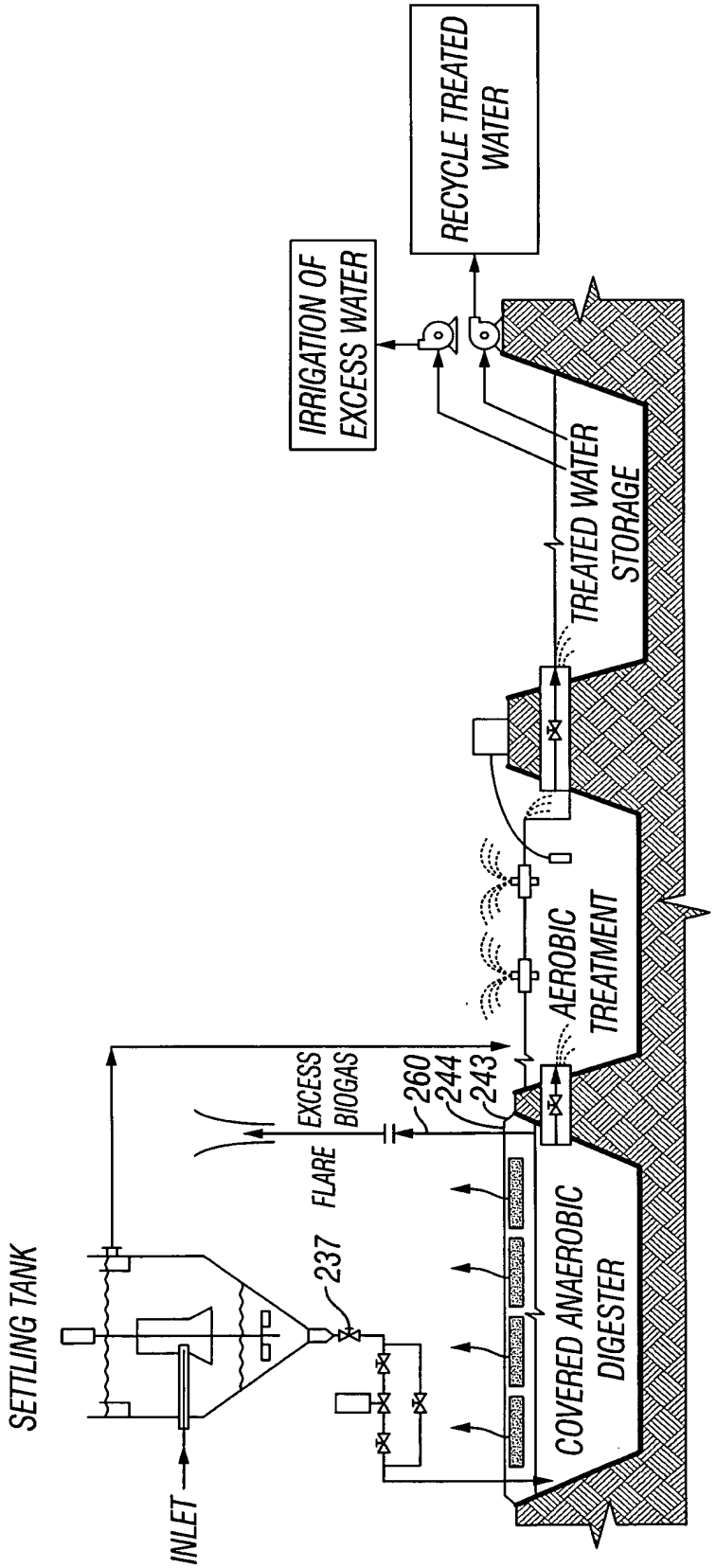
SETTLING TANK
INLET
237
FLARE
EXCESS BIOGAS
260
244
243
COVERED ANAEROBIC DIGESTER
AEROBIC TREATMENT
TREATED WATER STORAGE
IRRIGATION OF EXCESS WATER
RECYCLE TREATED WATER

FIG. 13

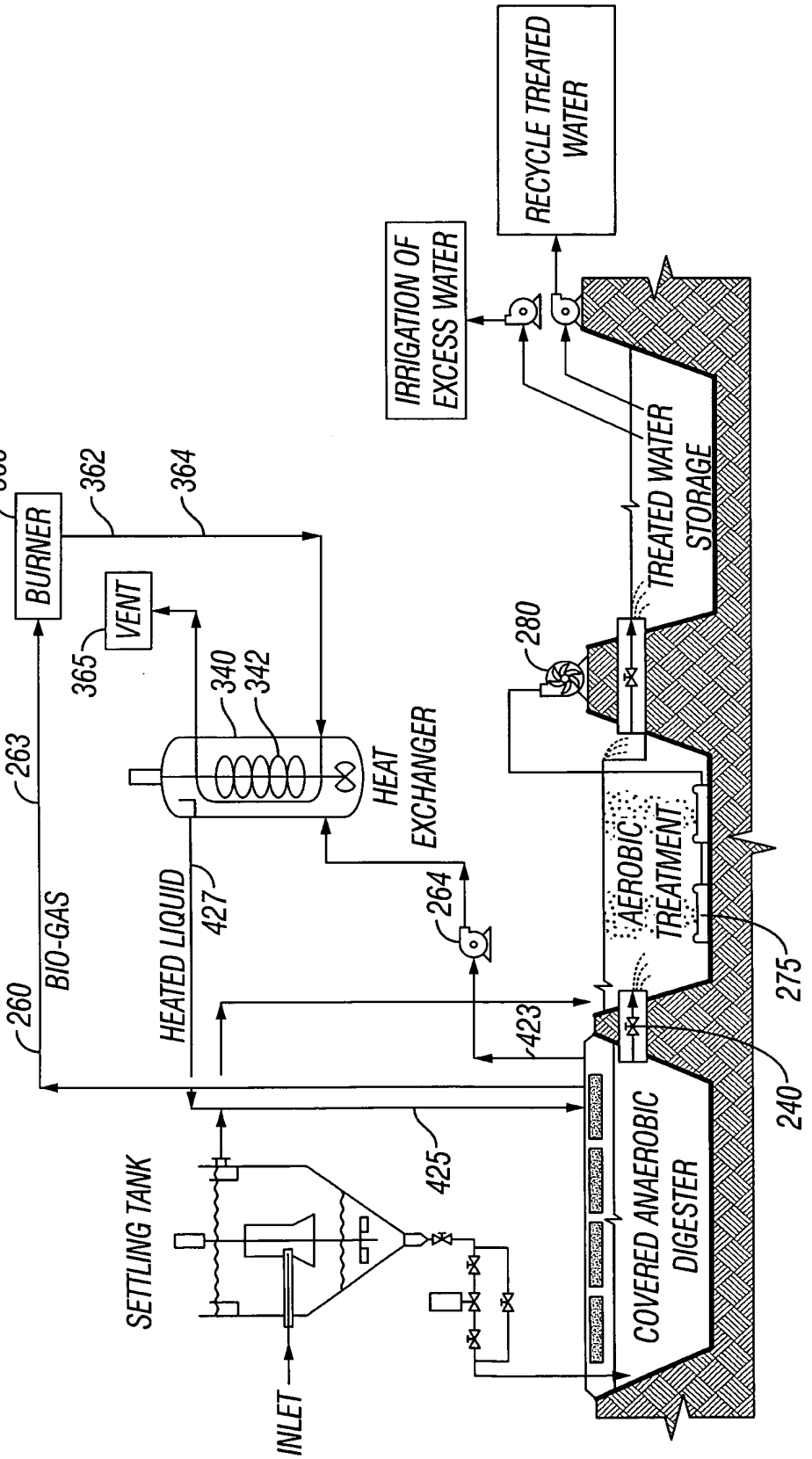
RECYCLE TREATED WATER
IRRIGATION OF EXCESS WATER
TREATED WATER STORAGE
280
AEROBIC TREATMENT
275
240
COVERED ANAEROBIC DIGESTER
425
423
264
HEAT EXCHANGER
340
342
365
VENT
360
BURNER
362
364
263
BIO-GAS
260
HEATED LIQUID
427
SETTLING TANK
INLET

FIG. 14

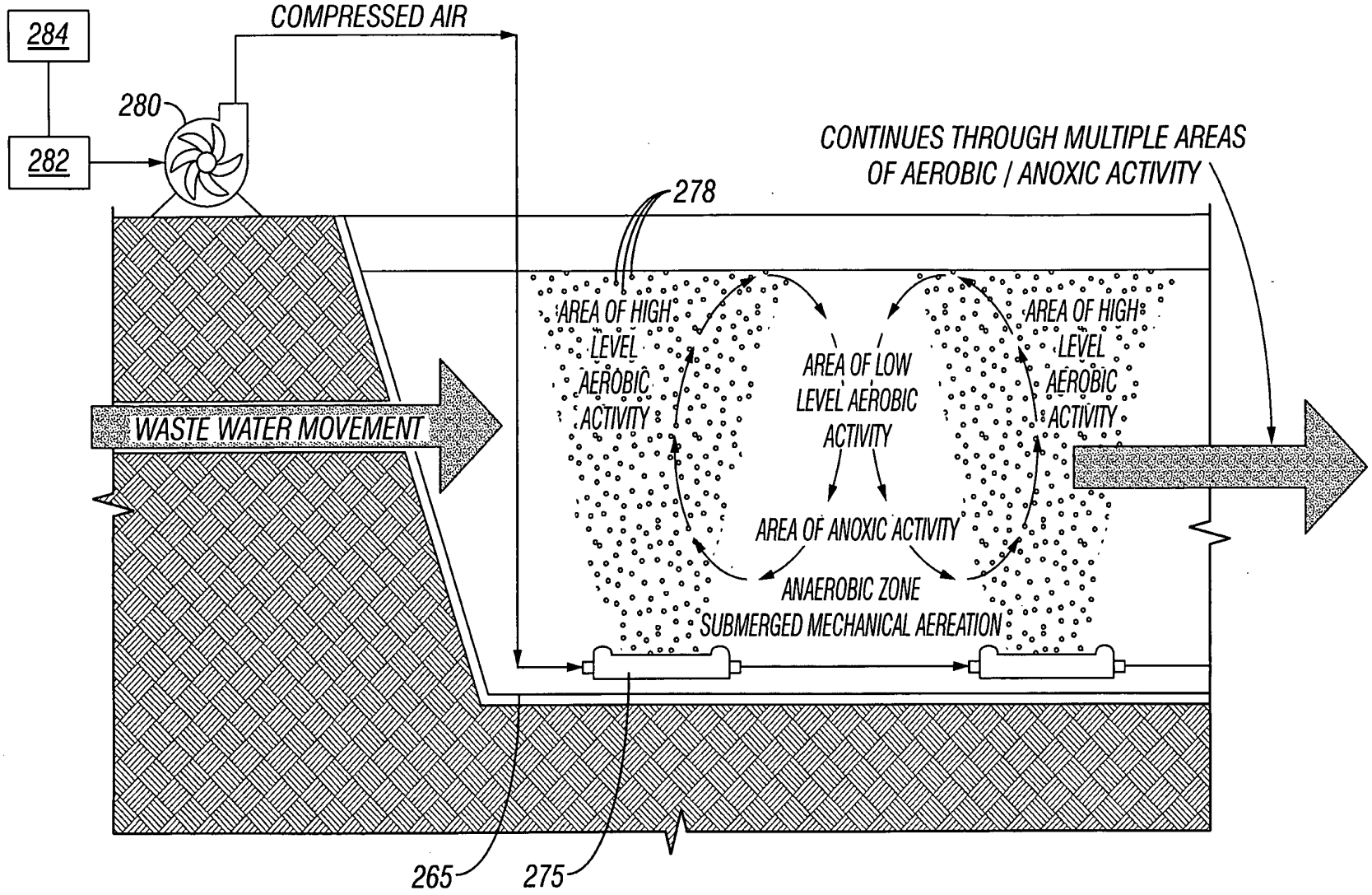
284
282
280
COMPRESSED AIR
CONTINUES THROUGH MULTIPLE AREAS
OF AEROBIC / ANOXIC ACTIVITY
278
AREA OF HIGH LEVEL AEROBIC ACTIVITY
AREA OF LOW LEVEL AEROBIC ACTIVITY
AREA OF HIGH LEVEL AEROBIC ACTIVITY
WASTE WATER MOVEMENT
AREA OF ANOXIC ACTIVITY
ANAEROBIC ZONE
SUBMERGED MECHANICAL AEREATION
265
275

FIG. 15

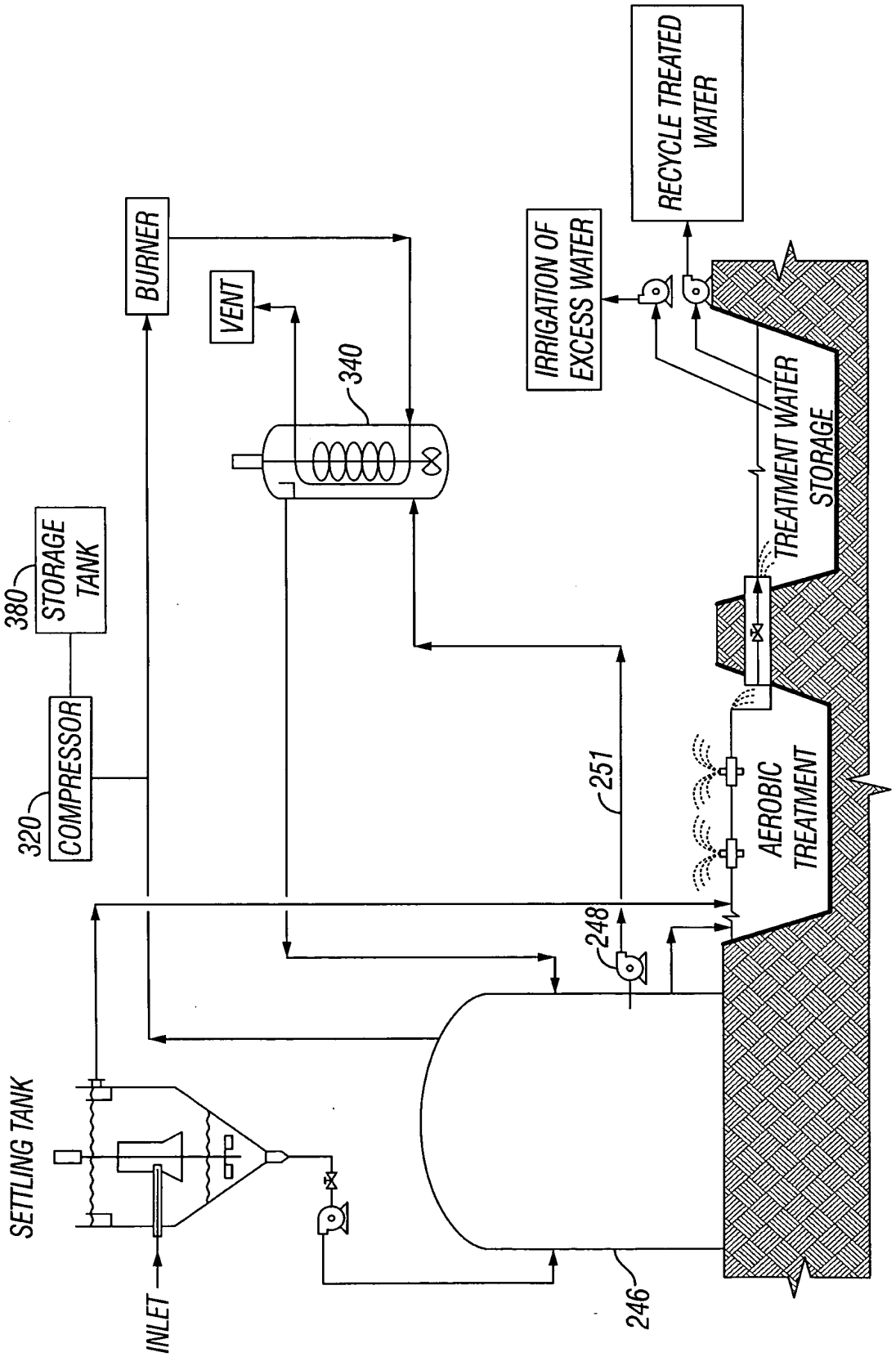
RECYCLE TREATED WATER
IRRIGATION OF EXCESS WATER
BURNER
VENT
340
TREATMENT WATER STORAGE
380
STORAGE TANK
320
COMPRESSOR
251
AEROBIC TREATMENT
248
SETTLING TANK
INLET
246

FIG. 16

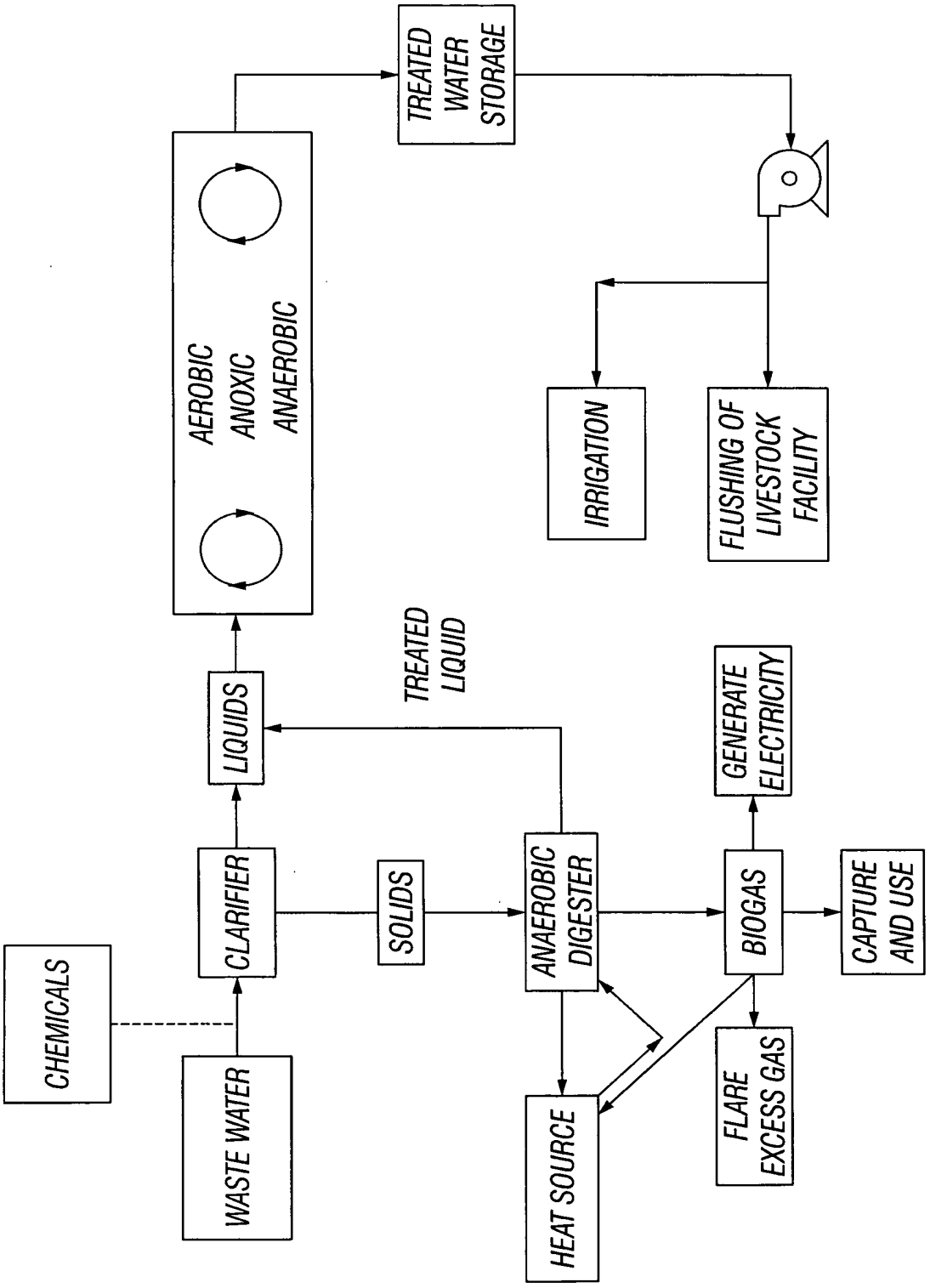
CHEMICALS
WASTE WATER
CLARIFIER
LIQUIDS
AEROBIC
ANOXIC
ANAEROBIC
TREATED WATER STORAGE
IRRIGATION
FLUSHING OF LIVESTOCK FACILITY
SOLIDS
ANAEROBIC DIGESTER
TREATED LIQUID
HEAT SOURCE
BIOGAS
GENERATE ELECTRICITY
CAPTURE AND USE
FLARE EXCESS GAS

FIG. 17

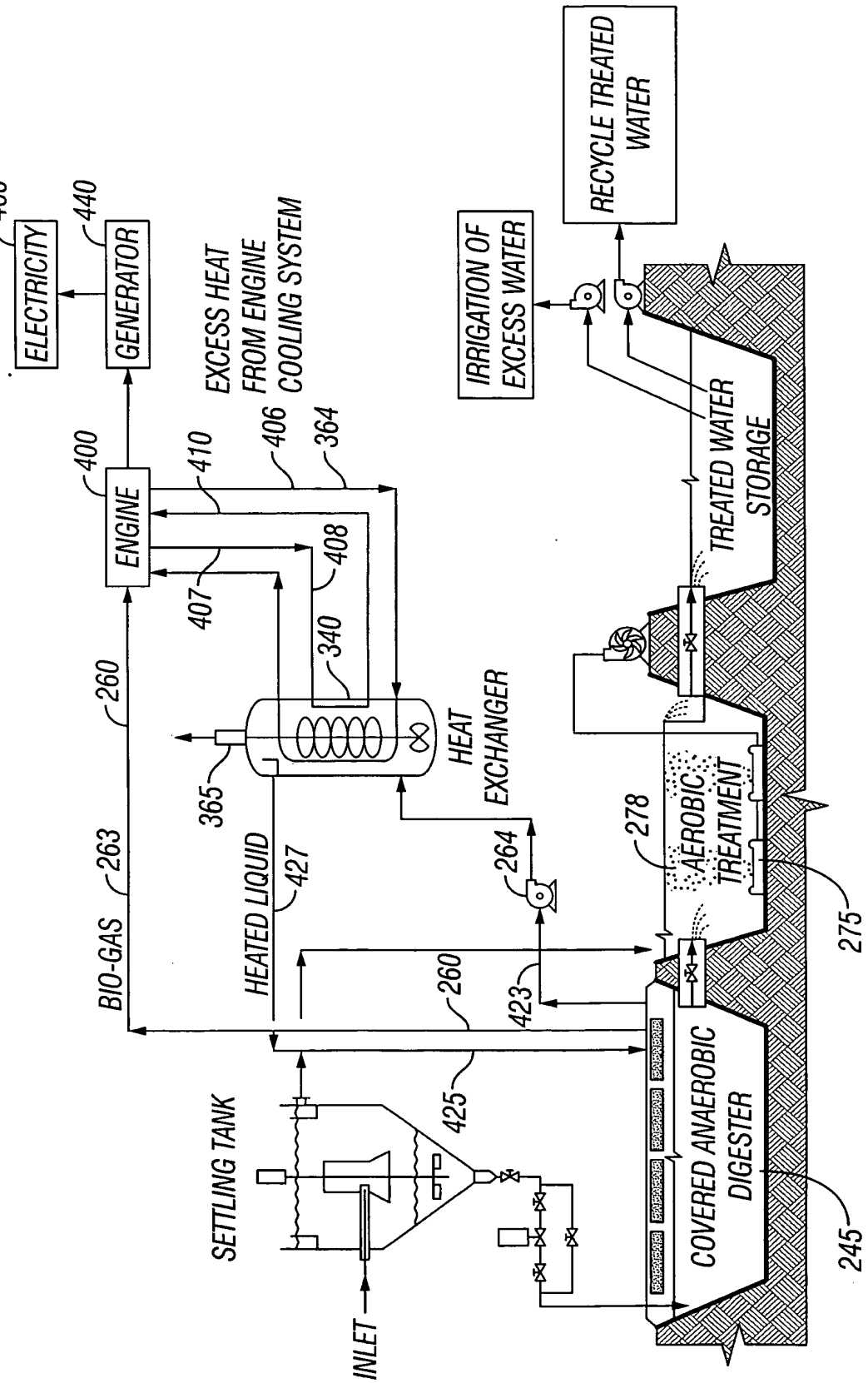
460
ELECTRICITY
440
GENERATOR
EXCESS HEAT FROM ENGINE COOLING SYSTEM
400
ENGINE
410
406
364
408
407
340
260
263
BIO-GAS
365
HEAT EXCHANGER
HEATED LIQUID
427
264
278
AEROBIC TREATMENT
275
260
423
425
SETTLING TANK
INLET
COVERED ANAEROBIC DIGESTER
245
IRRIGATION OF EXCESS WATER
RECYCLE TREATED WATER
TREATED WATER STORAGE

FIG. 18

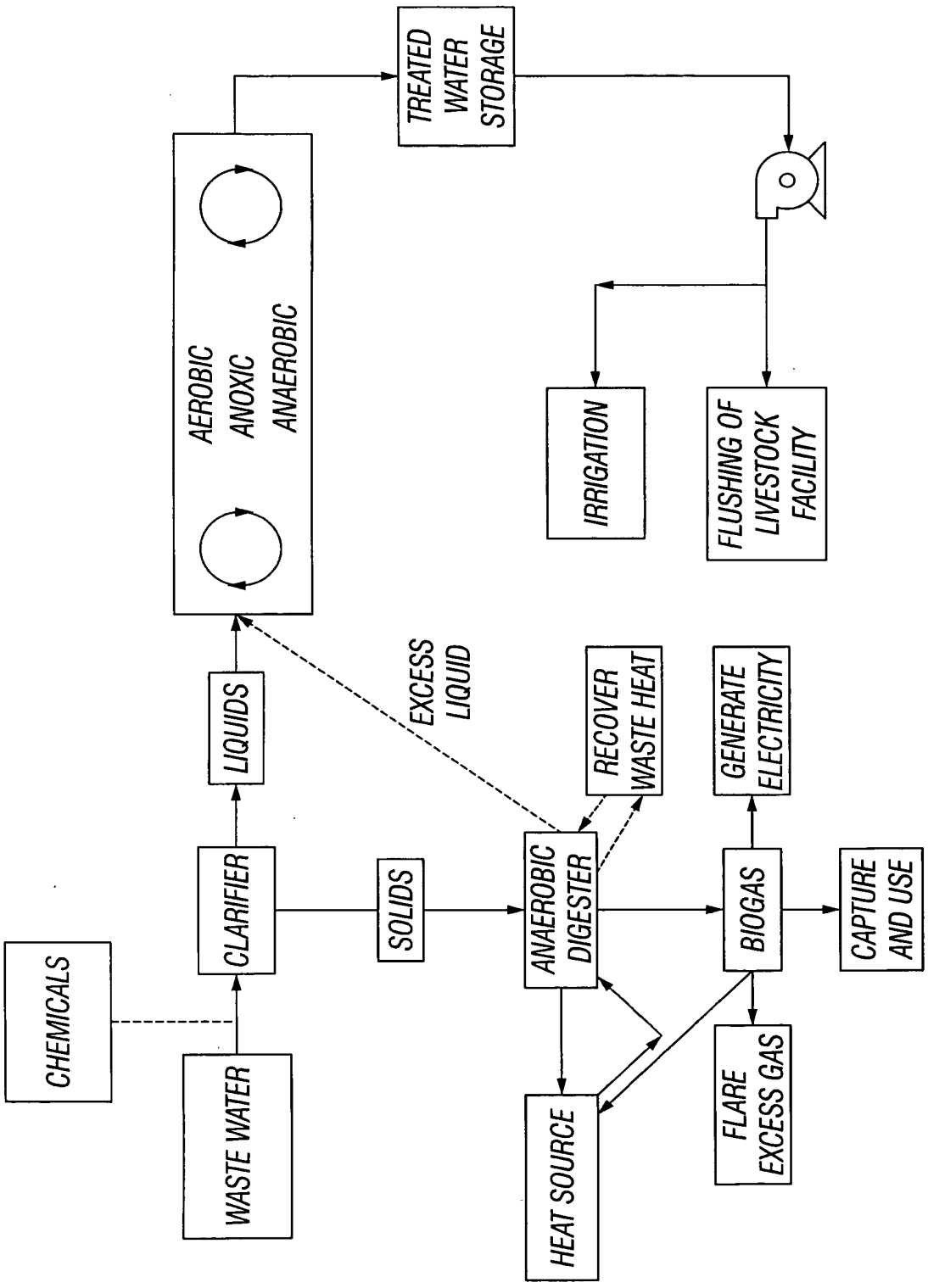
CHEMICALS
WASTE WATER
CLARIFIER
LIQUIDS
SOLIDS
AEROBIC
ANOXIC
ANAEROBIC
EXCESS LIQUID
ANAEROBIC DIGESTER
HEAT SOURCE
RECOVER WASTE HEAT
BIOGAS
GENERATE ELECTRICITY
FLARE EXCESS GAS
CAPTURE AND USE
TREATED WATER STORAGE
IRRIGATION
FLUSHING OF LIVESTOCK FACILITY

FIG. 19